

I claim:

1. An electrolytic cell comprising:
  - A) a metal cathode defining a cathode surface,
  - B) excess heat producing material located on said cathode surface,
  - C) an anode,
  - D) heavy water (deuterium oxide), and
  - E) LiOD dissolved in said heavy water.
2. The electrolytic cell as in Claim 1 wherein said metal cathode is comprised of platinum and said excess heat producing material is palladium.
3. The electrolytic cell as in Claim 1 wherein said metal cathode is comprised of platinum and said excess heat producing material is gold.
4. The electrolytic cell as in Claim 1 wherein said metal cathode is comprised of platinum and said excess heat producing material is palladium and gold.
5. The electrolytic cell as in Claim 1 wherein said metal cathode is comprised of copper and said excess heat producing material is palladium and gold.
6. The electrolytic cell as in Claim 2 wherein the surface of said anode is comprised of palladium.
7. The electrolytic cell as in Claim 2 wherein the surface of said anode is comprised of platinum.
8. The electrolytic cell as in Claim 1 and further comprising an electric power source.
9. The electrolytic cell as in Claim 8 wherein said power source is a pulse power source.
10. A process for producing heat comprising the steps of:

A) preparing an electrolytic cell comprising:

- 1) a metal cathode defining a cathode surface,
- 2) excess heat producing material located on said cathode surface,
- 3) an anode,
- 4) heavy water, and LiOD dissolved in said heavy water,  
wherein said excess heat producing material is deposited on said cathode surface prior to placing said cathode in said cell,

B) applying with an electric power source an electric potential between said cathode and said anode, and

C) measuring heat added to said cell via said electric power source and also measuring heat produced in said electrolytic cell and confirming that the heat so produced exceed the heat added.

11. The process as in Claim 10 wherein said metal cathode is comprised of platinum and said excess heat producing material is palladium.
12. The process as in Claim 10 wherein said metal cathode is comprised of platinum and said excess heat producing material is gold.
13. The process as in Claim 10 wherein said metal cathode is comprised of platinum and said excess heat producing material is palladium and gold.
14. The process as in Claim 10 wherein said metal cathode is comprised of copper and said excess heat producing material is palladium.
15. The process as in Claim 10 wherein said metal cathode is comprised of copper and said excess heat producing material is gold.
16. The process as in Claim 10 wherein said metal cathode is comprised of copper and said excess heat producing material is palladium and gold.

17. The process as in Claim 10 wherein said power source is a pulse power source.